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ABSTRACT

Research has consistently found that health care providers report having negative attitudes and perceptions toward Acquired Immune Deficiency Syndrome (AIDS) patients. This study was conducted to examine the independent and joint influences of a patient's mode of acquisition of illness (blood transfusion versus sexual promiscuity), patient blame (self-blame versus chance-blame), and patient sexual orientation (homosexual versus heterosexual) on medical students' attitudes toward and willingness to treat AIDS patients. Medical students in either their first year of training (N=74) or their fourth or internship year (N=44) were randomly assigned to read case vignettes which described an AIDS patient. The cases varied as a function of the crossing of the three factors under study. A consistency bias between attribution of blame and mode of disease acquisition was found to strongly influence perceptions. More positive attributions were made when such a consistency was perceived: a sexually promiscuous patient was seen as more sociable when he blamed himself for acquiring his disease than when he blamed chance and a patient who acquired AIDS via a blood transfusion was deemed more psychologically well-adjusted when he blamed chance for the acquisition of his illness rather than himself. Furthermore, the sexual orientation of the patient and general attitudes of AIDS patients influenced the providers' willingness to treat an AIDS patient. (Author/NB)

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Medical Students' Perceptions and Proposed Treatment Strategies for AIDS Patients

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Abstract

The purpose of this study was to examine the independent and joint influences of a patients' mode of acquisition of illness (blood transfusion vs. sexual promiscuity), patient attributions of responsibility (self-blame vs. chance-blame), and patients' sexual orientation (homosexual vs. heterosexual) on medical students' attitudes towards and willingness to treat AIDS patients. 119 first through internship year medical students were randomly assigned to read case vignettes which described an AIDS patient. The cases varied as a function of the crossing of the three factors under study. A consistency bias between attribution of blame and mode of disease acquisition was found to strongly influence perceptions. More positive attributions were made when such a consistency was perceived. Furthermore, the sexual orientation of the patient and general attitudes of AIDS patients influences the providers' willingness to treat an AIDS patient. Implications concerning health practices and medical education are considered.

Medical Students' Perceptions and Proposed Treatment Strategies for AIDS Patients

Research has consistently found that health care providers report having negative attitudes and perceptions towards acquired immunodeficiency syndrome (AIDS) patients. Medical students have been found to be less willing to converse with, as well as continue a past friendship with an AIDS patient (Kelly, St. Lawrence, Smith, Hood, & Cook,1987), and are less willing to accept an AIDS patient in their practice (Imperato, Feldman, Nayeri, & DeHovitz, 1988), than patients with other diseases. Similar negative attitudes towards AIDS patients have been found in undergraduates (Triplet & Sugarman, 1987) and other health care provider groups, such as nurses (Royse & Birge, 1987), social workers (Royse, Dhooper, & Hatch,1987), and physicians (Richardson, Lochner, McGuigan, & Levine, 1987). Overall, the results suggest that health care providers perceive AIDS patients as less socially competent and desirable than other groups of patients. These negative perceptions are especially important in the case management of AIDS patients because of the relationship often postulated to exist between providers' attitudes and treatment given to patients (e.g., Kurtz, Johnson, Tomlinson, and Fiel, , 1985).

Most of the studies examining attitudes towards AIDS patients have asked adults to respond generally to a case vignette of a "typical" AIDS patient. These studies have compared responses given about AIDS patients to those given about other patient groups. However, AIDS is not a unidimensional syndrome. Because it is a

behaviorally transmitted disease, adults' attitudes towards these patients may vary as a function of how the patient acquired the disease (mode of acquisition), patients' sexual orientation, and level of patients' responsibility (blame) for acquiring the illness. Other than sexual orientation, no study has examined how these variables, independently or in combination with the other factors, influence health care providers' attitudes towards AIDS patients.

A few studies have examined the mediating influence of homophobia (the degree of fear and anxiety about homosexuality) on providers' attitudes towards AIDS patients (e.g., Douglas, Kalman, & Kalman,1985; ; Dupras, Levy, Samson, and Tessier, 1989; Kelly et. al.,1987; Richardson et. al., 1987; Royse & Birge, 1987; Triplet & Sugarman, 1987). Overall, these studies report that health care providers show more negative attitudes towards AIDS patients when the patient is also described as homosexual.

Baum and Nesselhof (1988) posit that the assignment of blame (cause of the illness) by both the patient and the practitioner may influence attitudes towards, and contribute to differential treatment given to AIDS patients. Although Westbrook and Nordholm (1986) did not examine attitudes towards AIDS patients, their results can be applied to the study of how health care providers' attitudes may vary as a function of attribution of responsibility. These researchers found evidence to suggest that health care practitioners' perceptions of patients varied as a function of the degree to which the patient's behavioral lifestyle involvement in the acquisition of their illness was judged as contributing to the cause of their illness. In addition

to lifestyle information, these researchers manipulated whether the patient blamed themselves or chance happenings for their disease. Patients were rated as coping more appropriately when the attribution of responsibility link between their behavior/lifestyle and disease was consistent. For example, patients who smoked and contracted heart disease were perceived more favorably when they were a "self-blamer" rather than a "chance-blamer." This consistency bias was found to be pervasive across disease states.

The present study extends the experimental paradigm used by Westbrook and Nordholm (1986) to investigate medical students' attitudes towards AIDS patients. Specifically, the purpose of the present study was to investigate the independent and joint influences of a patient's mode of acquisition of illness (blood transfusion vs. sexual promiscuity), patient blame (self-blame vs. chance-blame) and patient's sexual orientation (homosexual vs. heterosexual) on medical students' attitudes towards and willingness to treat AIDS patients. Moreover, the attitudes of first year students were compared with those of graduating fourth year students to determine the extent to which traditional medical training influences students' perceptions of AIDS patients. The influence of participant gender on attitudes towards AIDS patients also was examined in the present study. Gender was included as a factor because other research has demonstrated that female medical students differ significantly from male medical students on such dimensions as attitudes towards and approaches to treating patients (Mendez,

Shymansky, & Wolraich, 1986; Rezler & Ten Haken, 1984; Stern, Ross, & Bielass, in press).

METHOD

Subjects

Research participants were 76 male and 41 female medical students from a northeastern medical college. In all there were 74 first year and 44 fourth year or internship year medical students. Participants were solicited via their classroom instructor, who informed them that their participation was voluntary and their responses would be kept confidential. Each student was paid $3 for their involvement in the study.

Procedure

Participants were randomly assigned to one condition within a 2 x 2 x 2 factorial design. The factors were Mode of Acquisition of Illness (sexual promiscuity vs. hemophiliac receiving blood transfusions), Blame (self vs. chance), and Sexual Orientation (heterosexual vs. homosexual). Participants were also blocked on Participant Gender (male vs. female) and Experience Level (first year vs. fourth year/internship year). Medical students were told that the purpose of the study was to assess their perceptions of HIV infected patients.

Each participant was provided a written case history which varied as a function of the crossing of the three primary factors. Altogether there were eight different case variations. The case history consisted of a description of a 42 year old white male patient who was experiencing some physical and psychological discomfort

due to a large non malignant cyst in his neck. It was also stated that elective surgery could potentially relieve the patient's symptoms. After reading the case history, each participant completed a series of rating scales assessing their perceptions of the patient and their willingness to treat the patient described.

Measures

The rating scale items were grouped into four subscales based upon conceptual relatedness and upon an exploratory factor analysis. Items were retained if they exceeded a .35 criterion. The resulting subscales, example items, and the Cronbach alpha for each were: Patient Sociability (e.g., Friendly/Shy, Responsive/Unresponsive, Cooperative/Uncooperative,Respond to suggestions/Not respond to suggestions, Likeable/Not likeable, Enjoy working with/Not enjoy working with, Accepted illness/Not accepted illness, Smart/Dumb, Strong/Weak, Assertive/Passive, Happy/Sad, Masculine/Feminine, Responsive/Unresponsive, Talkative/Non talkative, Understanding/Non understanding, Trusting/Non trusting, Cooperative/Uncooperative, Compliant/Non compliant, Asks Questions/Doesn't ask questions, Respectful/Not respectful, Friendly/Unfriendly; .90), Psychological Adjustment (e.g., Depressed/Not Depressed, Hostile/Not Hostile, Anxious/Not anxious, Guilty/Not guilty, Dependent/Not dependent, Good Prognosis/Bad prognosis, Extent to which the patient will accept the limitations of his illness, Accepting of prognosis/Not accepting of prognosis; .70), Patient Responsibility (e.g., Extent to which the patient is: responsible for acquiring his illness, responsible for the cause of his problems,

could have avoided his problems, and creating a solution to his problem; .79). Treatment Strategies (e.g., Likelihood that: you will be working with AIDS patients, would perform elective surgery for the patient, the patient deserves any treatment, you are responsible for finding a solution to the patient's problem, you would care for this patient, you would transfer the patient to another physician or hospital; .72). All items were measured on 7-point rating scales. A single composite score was derived for each subscale.

General attitudes towards AIDS patients was measured using a modified version of the Attitude Toward Disabled Persons Scale (Yuker, Block, & Younng, 1970). The scale was modified by replacing the referents to the disabled in each of the items with the phrase "HIV infected." The sum of the 30 6-point items making up the General Attitudes Towards AIDS (GATA) scale yields a single score that reflects a general positive as opposed to negative attitude toward people who are HIV infected. The scale was used to assess whether general attitudes towards AIDS patients influenced the willingness of medical students to treat an AIDS patient. Higher scores indicate more positive attitudes. The internal consistency for this scale was .79 (Cronbach alpha).

Results

Multivariate and univariate analyses of variance (MANOVAs and ANOVAs) were conducted to assess the effects of various factors on medical students' ratings of AIDS patients. The Patient Sociability and Psychological Adjustment subscales were analyzed together in MANOVAs to assess General Patient Characteristics. When

multivariate effects were significant, follow-up univariate tests were conducted on the individual composite scores. Patient Responsibility and Treatment Strategies were analyzed separately in ANOVAs.

Initial analyses revealed no effects involving experience level. Analyses reported here omitted the Experience Level factor to increase power. A series of 2 (Mode of Acquisition of Illness) x 2 (Blame) x 2 (Sexual Orientation) x 2 (Participant Gender) analyses were used. A multiple regression analyses was performed to determine the relationship between an General Attitudes Towards AIDS (GATA) scale and treatment strategies.

General Patient Characteristics. An interaction between the Mode of Acquisition of Illness factor and the Blame factor influenced ratings, multivariate $F(2,96) = 9.33$, $p < .001$. Follow-up univariate tests indicated that this effect was significant for both patient sociability $F(1,97) = 11.29$, $p < .001$, and psychological adjustment $F(1,97) = 11.85$, $p < .001$ (See Table 1).

Insert Table 1 about here

To probe the interaction further, simple-effect tests were conducted. Medical students were found to rate an AIDS patient described as sexually promiscuous as more sociable when the patient blamed himself rather than chance for acquiring his disease, $F(1,58) = 10.12$, $p < .002$. No significant effects on patient sociability were found for patients described as acquiring their illness via a blood transfusion. However, medical students rated a patient who acquired

AIDS via a blood transfusion more psychologically adjusted when the patient blamed chance rather than himself for acquiring his disease, $F(1,55) = 20.27$, $p < .001$. No significant effects on psychological adjustment were found for patients described as sexually promiscuous.

Mode of Acquisition of Illness was found to significantly influence General Patient Characteristics, multivariate $F(2,96) = 5.62$, $p < .005$. Follow-up univariate tests indicated that this effect held for patient sociability, $F(1,97) = 11.01$, $p < .001$. Students rated a patient who acquired AIDS via a blood transfusion as more sociable and cooperative than a patient who acquired AIDS via sexually promiscuous behavior. Blame also was found to significantly influence general ratings of Patient Characteristics, multivariate $F(2,96) = 9.33$, $p < .001$. Follow-up univariate tests indicated that this effect held for psychological adjustment, $F(1,97) = 13.715$, $p < .001$. Students rated a patient who blamed chance as more psychologically adjusted than a patient who blamed himself for acquiring his disease. Recall, however, that these factors were involved in a significant interaction on the same dependent variables.

Participant Sex was found to significantly influence General Patient Characteristics, multivariate $F(2,96) = 4.17$, $p <. 018$. Follow-up univariate tests indicated that female medical students rated a patient with AIDS as more sociable $F(1,97) = 5.52$, $p < .021$ and more psychologically well adjusted $F(1,97) = 4.82$, $p < .030$, than male medical students.

Patient Responsibility. An interaction between the Mode of Acquisition of Illness factor and the Sexual Orientation factor influenced ratings of Patient Responsibility $F(1,100) = 59.91$, $p < .039$. To probe the interaction further, simple-effect tests were conducted. As can be seen in Table 2, medical students tended to rate a patient who acquired AIDS from a blood transfusion as more responsible for acquiring his illness when the patient was additionally described as homosexual rather than heterosexual, $F(1,55) = 3.49$, $p < .067$. No significant effects were found for those patients described as sexually promiscuous.

Insert Table 2 about here.

A main effect for the Mode of Acquisition of Illness factor also was found to significantly influence Patient Responsibility, $F(1,100) = 152.19$, $p < .001$. Patients described as sexually promiscuous were seen as more responsible for the cause and solution to their problems than patients who were described as acquiring AIDS via a blood transfusion. A main effect also was found for Sexual Orientation, $F(1,100) = 98.30$, $p < .009$. Medical students rated a homosexual patient as more responsible for acquiring his illness than a heterosexual patient. Recall, however, that both these factors were involved in an overriding interaction.

Treatment Strategies. The primary goal of these analyses was to assess the willingness of medical students to provide treatment to AIDS patients as a function of the factors under consideration. A

three-way interaction between the factors of Mode of Acquisition of Illness, Sexual Orientation, and Participant Sex was found, $F(1,99) = 4.44$, $p < .038$. As can be seen in Figures 1 and 2, simple-effects tests revealed that male medical students who read about a patient who acquired AIDS via a blood transfusion were significantly more willing to provide treatment when the patient was additionally described as heterosexual rather than homosexual, $F(1,33) = 5.07$, $p < .031$. No significant differences were found for patients who acquired AIDS by engaging in sexually promiscuous behavior.

Insert Figures 1 and 2 about here.

One purpose of this study was to determine whether General Attitudes Towards AIDS (as assessed on the GATA) contributes to understanding medical students' willingness to treat AIDS patients. A multiple regression analysis was employed to test whether GATA explains a unique proportion of the variance associated with the willingness to treat AIDS patients (Treatment Strategies), above and beyond the interaction among the factors of Mode of Acquisition of Illness, Sexual Orientation, and Participant Sex. An overall multiple R of .28 was found in the full model, $F(2,112) = 5.04$, $p < .008$. The reduced model showed that GATA significantly accounted for a unique amount of the variance on treatment strategy (R^2=.076; B=.278; t=3.04, $p < .003$). Correlations indicated that the more negative the attitude towards AIDS patients, the less willing the medical student was to treat these patients.

Discussion

The main purpose of this study was to assess the independent and joint influences of several factors on medical students' perceptions of and willingness to treat AIDS patients. The study provides evidence to suggest that health care providers' impressions of a patient are influenced by the way the patient acquires his disease as well as whether the patient blames chance or himself for acquiring his illness. Specifically, a sexually promiscuous patient was seen as more sociable when he blamed himself for acquiring his disease than when he blamed chance happenings. In contrast, a patient who acquired AIDS via a blood transfusion was deemed more psychologically well-adjusted when he blamed chance for the acquisition of his illness rather than himself.

These results are consistent with the findings of Westbrook and Nordholm (1986). In the earlier study, patients were rated more positively when the attribution of responsibility link between the patients' behavior/lifestyle and disease was consistent. This consistency bias appears to also be operating when examining perceptions of AIDS patients. Clearly, future research must examine whether this consistency bias affects the actual provision of services offered to patients. This issue becomes especially problematic when considering AIDS, however, because the issues are often emotional and value laden.

Previous research has found a consistent homophobic bias towards AIDS patients (e.g., Douglas, Kalman, & Kalman,1985; ; Dupras et. al., 1989; Kelly et. al.,1987; Richardson et. al., 1987; Royse

& Birge, 1987; Triplet & Sugarman, 1987). Further evidence for such a bias was found in the present study. The results additionally demonstrated that medical students differentially attribute responsibility to the patient as a function of how the patient acquires his illness and his sexual orientation. Medical students tended to rate a patient who acquired AIDS via a blood transfusion as more responsible for acquiring his illness when the patient was additionally described as homosexual rather than heterosexual.

Furthermore, male medical students were less willing to treat a patient who acquired AIDS via a blood transfusion when he was additionally described as a homosexual. Female medical students showed no differences in their intention to treat AIDS patients as a function of the patient's sexual orientation. In fact, in line with past research, female medical students tended to rate AIDS patients as more sociable and psychologically well adjusted than male medical students. These gender differences on the part of the health care providers are particularly important given other findings from the study which suggest a clear relationship between general attitudes towards AIDS patients and willingness to treat patients.

Conclusions. Overall, these results suggest that the way a patient acquires AIDS, the patient's sexual orientation, and the degree to which the patient takes responsibility for his illness influences health care providers' perceptions of and willingness to treat the patient. More importantly, the perception of consistency between the attribution of blame and mode of acquisition of the illness influences the providers' perceptions an AIDS patient.

Furthermore, the sexual orientation of the patient and general attitudes of AIDS patients influences the providers' willingness to treat an AIDS patient. The psychosocial impact of these biases on the AIDS patient must be considered in future research. Implications of these issues must be examined with regard to health practices and medical education.

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Table 1

Mean Ratings as a function of Mode of Acquisition of Illness and Blame on Patient Sociability and Psychological Adjustment

	Conditions			
	Sexual Promiscuity		Blood Transfusion	
Cluster/ Variable	Self Blame	Chance Blame	Self Blame	Chance Blame
Sociability	86.7	77.1 **	88.7	92.4
Psychological Adjustment	26.7	28.5	24.9	32.1 ***

Note: The higher the mean, the greater the positive attribution of the characteristic. *** $p < .001$, ** $p < .01$.

Table 2

Mean Ratings as a function of Mode of Acquisition of Illness and Sexual Orientation on Patient Responsibility

	Conditions			
	Sexual Promiscuity		Blood Transfusion	
Cluster/ Variable	Heterosexual	Homosexual	Heterosexual	Homosexual
Patient Responsibility	17.8	18.6	7.9	10.8 *

Note: The higher the mean, the greater the attribution of responsibility. * $p < .05$.

Figure Caption

Figure 1. Mean ratings for treatment strategies as a function of sexual orientation and mode of acquisition of illness for male medical students.

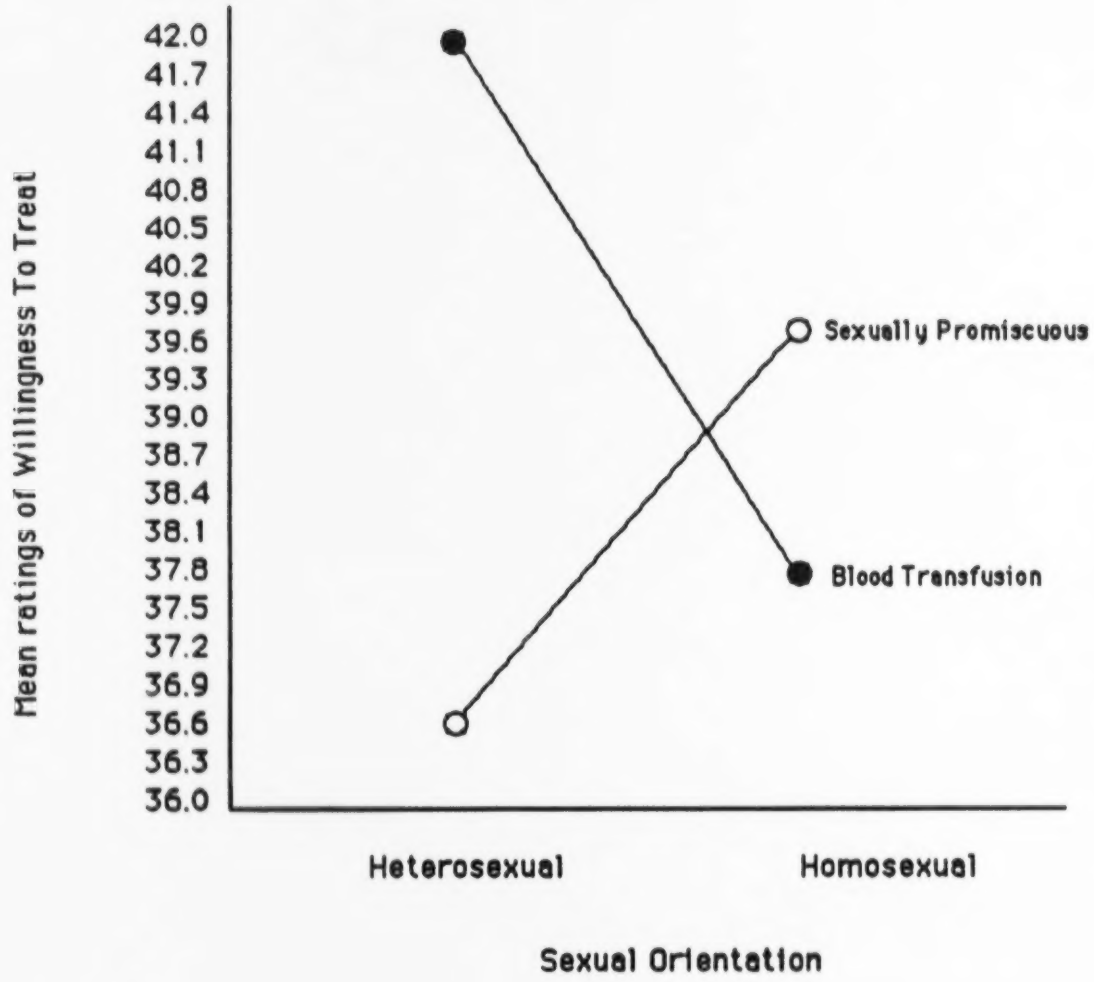
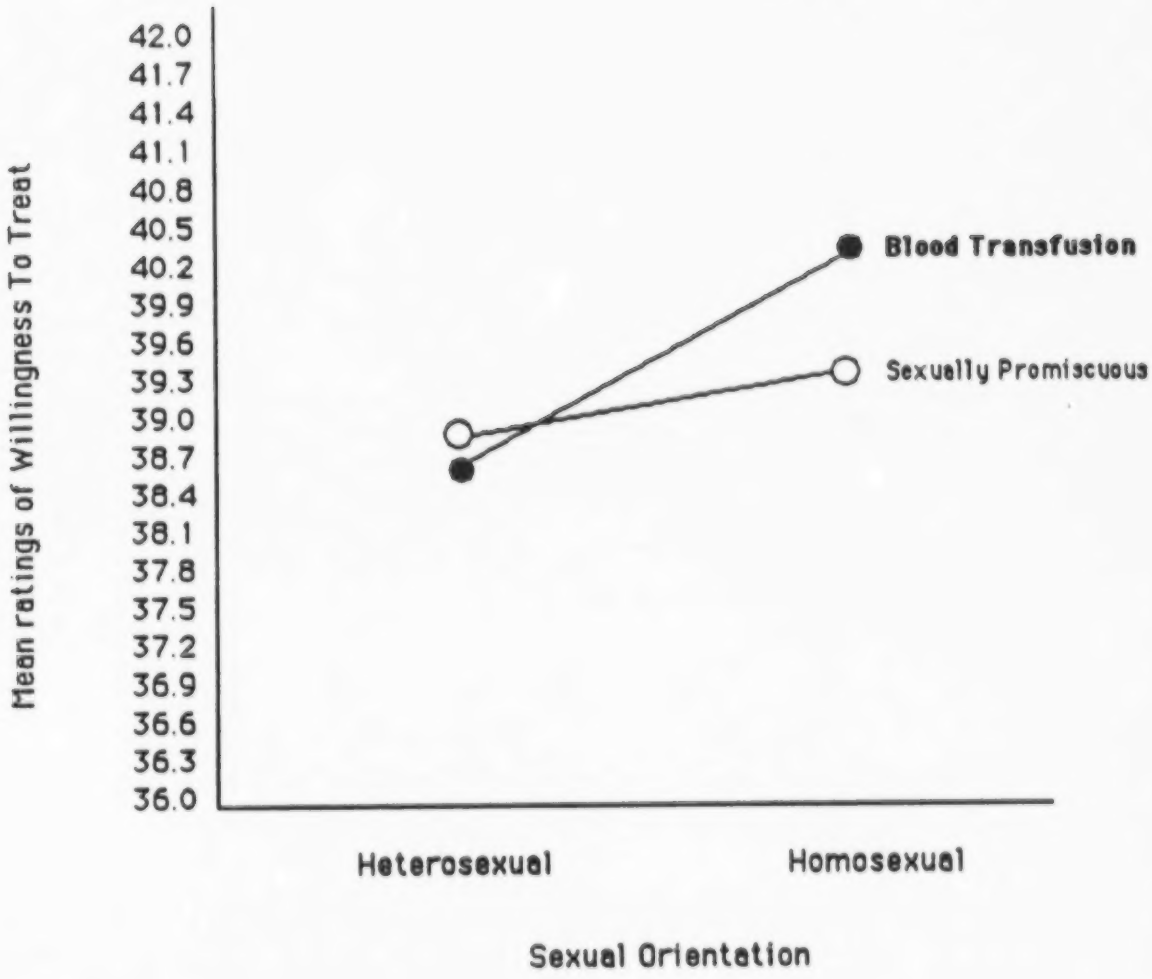

Mean ratings of Willingness To Treat
42.0
41.7
41.4
41.1
40.8
40.5
40.2
39.9
39.6
39.3
39.0
38.7
38.4
38.1
37.8
37.5
37.2
36.9
36.6
36.3
36.0
Sexually Promiscuous
Blood Transfusion
Heterosexual
Homosexual
Sexual Orientation

Figure Caption

Figure 2. Mean ratings for treatment strategies as a function of sexual orientation and mode of acquisition of illness for female medical students.


Mean ratings of Willingness To Treat
42.0
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38.1
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36.6
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Blood Transfusion
Sexually Promiscuous
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